

IBM FlashSystem and MEDITECH: High- performance healthcare

Third-party testing confirms that IBM FlashSystem accelerates MEDITECH healthcare solutions



Highlights

- Accelerate healthcare information systems with MEDITECH electronic health records (EHR) software and IBM® FlashSystem® storage
 - Reduce both capital and operational expenses while increasing the performance of crucial healthcare applications
 - Improve backup performance for MEDITECH applications, no matter the workload
 - Become a healthcare organization that can lead the market and drive innovation, thanks to increased efficiency and application productivity as well as controlled costs
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Over the past few decades, healthcare organizations in the US have made significant information technology investments. In the process, healthcare professionals and decision makers have discovered that data storage plays a crucial role in keeping their software running at peak efficiency. Healthcare application providers such as MEDITECH work closely with IT infrastructure vendors including IBM to test, certify and optimize the integration and performance of their products.

Recently, independent certification testing of MEDITECH software with IBM FlashSystem storage conducted by CloudWave, a technical consulting and infrastructure provider formerly known as Park Place International, has yielded impressive results. The test system configured with MEDITECH and IBM FlashSystem successfully achieved one of the highest MEDITECH performance levels ever documented. Also, backup performance remained steady, even under extreme application workloads, a key result of the testing. Thousands of MEDITECH customers around the world now have independently validated test results confirming that IBM FlashSystem storage offers low-risk integration and unmatched performance benefits in high-volume, high-velocity application environments.



MEDITECH

Founded in 1969, Medical Information Technology, Inc. (MEDITECH) is an EHR vendor whose innovative solutions are bringing increased productivity and sustainability to today's value-based healthcare model. MEDITECH's EHR software serves more than 2,400 healthcare organizations worldwide and is used in more than 26 percent of US hospitals. MEDITECH software offers web-based touchscreen technology designed to maximize flexibility, interoperability, manageability, data protection and mobility. MEDITECH's clinically sophisticated 6.x EHR system received the 2015/2016 Best in KLAS ranking for Community HIS and was rated KLAS Category Leader for Global (Non-US) Acute Care EMR in Northern America (Canada). MEDITECH has also received the Malcolm Baldrige Quality Award and been recognized by Hospital & Health Networks magazine's annual Most Wired survey. MEDITECH has the most customers of any EHR vendor on the Healthcare IT News list of the Best Hospital IT Departments.

IBM FlashSystem

IBM FlashSystem is a family of all-flash storage arrays engineered to address the most demanding requirements for enterprise performance, reliability, comprehensive feature set and cost. Powered by IBM FlashCore™ technology, these proven, easily integrated flash solutions accelerate critical applications for faster decision making, come with best-in-class reliability and deliver new efficiencies across the entire business environment for a faster return on investment.

In order to address the ever-increasing workloads of healthcare EMR, imaging and analytics, IBM FlashCore technology enables IBM FlashSystem to accelerate response times, delivering reads and writes in the 100-microsecond range. Storage latency affects the performance and efficiency of mission-critical healthcare applications. When hundreds of patients or their healthcare providers are simultaneously accessing and updating EMR information around a hospital campus or from around



With the speed of IBM FlashSystem, doctors can spend less time on administration and more time with patients.

the globe, database response times are the throttle that determines how soon the data arrives in surgery or customer support. Few industries outside of the financial sector may be as storage-latency sensitive as the healthcare system.

Results of working together

Today, speed is a requirement for every healthcare system. For MEDITECH applications, backup performance was negatively impacted by the slow performance of disk-based storage. To be a MEDITECH-certified storage array, IBM FlashSystem must be capable of supporting the demands of a fully operational MEDITECH environment while meeting or exceeding the minimum performance requirements established by MEDITECH.

Certification testing was conducted by CloudWave, which provides technology integration, technical consulting and the suite of cloud-based solutions known as OpSus/Cloud Services for MEDITECH and the healthcare industry. The testing modeled a 100 virtual server MEDITECH cluster that simulated real-world healthcare deployments.

The tests confirmed that IBM FlashSystem easily met all of the MEDITECH certification criteria, plus provided significant additional benefits.¹ IBM FlashSystem storage provided 75,000 IOPS with MEDITECH, one of the highest test results ever achieved, while also enabling backups to process at top speed, no matter the workload. IBM FlashSystem:

- Reduced the storage footprint by 92 percent
- Required 92 percent less storage capacity to achieve similar performance
- Reduced power consumption by 95 percent
- Cost 63 percent less

CloudWave also found that even hybrid storage solutions don't provide the performance and cost benefits offered by IBM FlashSystem. Compared to an enterprise-class hybrid storage array, IBM FlashSystem:

- Reduced the storage footprint by 81 percent
- Required 82 percent less storage capacity to achieve similar performance
- Reduced power consumption by 90 percent
- Cost 33 percent less

“By eliminating mechanical components, flash storage provides unparalleled access times compared to traditional storage. IBM followed this trend with the release of their IBM FlashSystem all-flash storage arrays, which provide greater performance, lower physical footprint and higher density compared to either traditional or hybrid arrays.”

—Matt Donahue, Chief Technology Officer, CloudWave

Test configuration

Hardware

- 8 Lenovo x3650 M5 servers
- IBM FlashSystem array (40 TB)
- 2 Cisco MDS 9148 switches – Fibre Channel
- 2 Cisco Nexus 9K switches – TCP/IP

Software

- MEDITECH 6.x
 - Microsoft Windows 2008 R2 SP1
 - VMware ESXi v5.5
 - Magic database
 - BridgeHead backup software
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Why IBM and MEDITECH?

IT solutions can play a critical role in helping providers and payers deliver quality service and control escalating costs by improving productivity, efficiency and traceability. Independent testing has confirmed that the combination of MEDITECH and IBM FlashSystem can reduce both capital and operational expenses while increasing the performance of crucial healthcare applications. Additionally, IBM FlashSystem helps healthcare IT departments address the challenges of backing up ever-growing volumes of data without negatively impacting production system performance. The CloudWave tests showed no performance degradation when system backups were being performed and confirmed why IBM FlashSystem is quickly becoming the new tool of choice for leading healthcare enterprises determined to succeed and thrive.

For more information

To learn more about IBM FlashSystem, please contact your IBM representative or IBM Business Partner, or visit the following website: ibm.com/systems/storage/flash

For more information about MEDITECH, please contact info@meditech.com or call 781-821-3000

For more information about CloudWave, please contact customersfirst@gocloudwave.com or call 877-991-1991

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Actual available storage capacity may be reported for both uncompressed and compressed data and will vary and may be less than stated.

¹ Results based on IBM analysis of testing data provided by CloudWave.



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